



## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

# Solid Waste Landfills

[www.idem.IN.gov](http://www.idem.IN.gov)

*Mitchell E. Daniels, Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue, Mail Code 65-45, Indianapolis, IN 46204  
Phone: (317) 232-8871 Toll Free: (800) 451-6027

## Description:

- Solid waste landfills are carefully constructed structures built into or on top of the ground to dispose of and isolate waste from the surrounding environment. Current landfill regulations provide for the responsible management of solid waste and a safer alternative to the outdated practices of open or illegal dumping.
- Municipal solid waste landfills may receive household waste, construction/demolition waste, industrial process waste, and pollution control waste in accordance with appropriate regulations. Solid waste landfills are not authorized to accept hazardous waste.
- Landfill sites may accept only the specific waste designated in their facility permits, which is determined according to a classification system set by the solid waste land disposal rules.
- Landfills may be publicly or privately owned. Owners and operators of solid waste landfills must first receive local zoning approval for siting a landfill. Landfill owners and operators must then receive a solid waste facility permit from the Indiana Department of Environmental Management (IDEM), as well as any required local land use permits, prior to constructing and operating a landfill.
- Landfills are required to use synthetic liners and/or soil liners of site specific thickness and hydraulic conductivity, plus various safeguards to isolate the waste from nearby ground water, air, and soil. The design and protective measures are based upon site specific conditions.
- Landfill operators must monitor and manage gas emissions, regularly test groundwater adjacent to the disposal site, collect leachate for treatment, and compact and cover waste on a daily basis.
- Once closed, landfill operators must continue to monitor ground water and maintain a final cover of the site to ensure proper containment of the waste.

## Environmental impacts:

- Modern sanitary landfills are designed with liners, leachate collection systems, leak detection systems and methane collection systems to prevent contamination of nearby soil, groundwater, and air.
- As rainwater filters through a landfill, chemicals in the landfill may dissolve in the water, a process called leaching. The resulting mixture, leachate, is collected through a system of perforated pipes and pumps. The leachate is then tested and treated to prevent any contamination to soil and groundwater.
- Because landfills apply daily cover to the waste, the decomposition of waste occurs without oxygen and produces methane and carbon dioxide. To alleviate the buildup of methane, a series of pipes are installed to safely collect and either flare or utilize the gas.

- Several landfill operators collect methane from their landfill and use it as an energy source for the landfill. Methane is also sold to local utility providers, companies, and even greenhouses.

### **IDEM's role:**

- IDEM is responsible for protecting human health and the environment while providing for safe industrial, agricultural, commercial, and governmental operations vital to a prosperous economy.
- IDEM's Office of Land Quality is responsible for reviewing permit applications and, if they are in compliance with the solid waste regulations, issuing permit decisions for solid waste disposal and processing facilities.
- IDEM's Office of Land Quality regulates landfill facilities and waste types in Indiana and works with solid waste management districts on local waste management and recycling programs.
- Staff members from IDEM's Agricultural and Solid Waste Compliance and Technical Compliance sections conduct inspections at solid waste facilities, including operating landfills and facilities that are no longer operating.
- In addition to the permitting activities, geologists evaluate sampling protocols for ground water monitoring devices and review ground water quality information.

### **More information:**

- For more information on solid waste and landfill permitting, visit IDEM's Office of Land Quality permits Web site at <http://www.in.gov/idem/4222.htm>.
- For more information on solid waste and landfill compliance, reporting, and services, visit IDEM's Office of Land Quality compliance Web site at <http://www.in.gov/idem/4998.htm>.
- For additional information on solid waste management, visit the United States Environmental Protection Agency's (U.S. EPA) Web site at [www.epa.gov/epaoswer/non-hw/muncpl/disposal.htm](http://www.epa.gov/epaoswer/non-hw/muncpl/disposal.htm).
- For more information on methane collection and use as an energy source, visit U.S. EPA's Web site at [www.epa.gov/lmop](http://www.epa.gov/lmop).
- For landfill questions and concerns, feel free to call IDEM's Office of Land Quality, toll free, at (800) 451-6027.

